UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,447	05/02/2001	Roland M. Morley	INTL-0535-US (P10840)	7740

7590 03/20/2003

Timothy N. Trop
TROP, PRUNER & HU, P.C.
8554 KATY FWY, STE 100
HOUSTON, TX 77024-1805

EXAMINER
LEURIG, SHARLENE L

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/847,447	MORLEY ET AL.	
	Examiner	Art Unit	
	Sharlene Leurig	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) *12-30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Matthies et al. (6,370,019). Matthies discloses a large format display comprising a plurality of emissive display modules (Figure 1, elements 122 and 124). Regarding claim 1, each module has at least one alignment element in the form of a matching connector (column 6, line 49) that mates with an alignment device on the backframe (Figure 9, element 904). Matching connectors necessarily function as alignment devices since they require proper alignment to mate. Therefore the proper alignment of matching connectors would necessarily align the module with the backframe. Although Matthies does not specifically disclose more than one connector pair per tile, two connectors would have been an obvious choice to provide the structure for multiple voltages or redundant circuitry should one of the matching connector pairs fail. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Matthies' modules to have more than one matching connector pair per module in order to provide a more reliable unit or to provide a unit having diverse electrical permutations.

Regarding claim 2, the module has a backplate (Figure 2, element 130) on which the alignment elements are formed (column 6, line 50). Regarding claim 3, a driver chip

is located on the back surface of the display tile (Figure 7, element 134) and numerous emissive elements are formed on the front surface of the display tile (Figure 7, element 708). Regarding claim 4, Matthies discloses fasteners extending from the backplate to attach it to the backframe (column 6, line 35). Regarding claim 5, these fasteners may comprise connectors which allow the backpanel to be "plugged into" the backframe, thereby engaging elements on the backframe to secure the backframe to the modules (column 6, line 37). Regarding claim 6, the option of plugging connectors into the backframe allows the backpanel to be removeably connected to the backframe to permit "the repair and replacement of the individual tiles" (column 6, line 39).

Regarding claim 7 Matthies discloses fasteners extending from the backplate to attach it to the backframe, as discussed above, but lacks the specific type of a threaded fastener. However, the applicant's disclosure fails to show the use of threaded fasteners to solve any of the stated problems or yield any unexpected results that are not within the scope of the teachings applied. Consequently, the use of threaded fasteners is considered to be an obvious matter of design choice.

Regarding claim 8, as can be seen in Figure 6B, each module has a transparent layer 322 (column 9, line 20) and a plurality of spaced apart light emissive cells, elements 324, formed on the transparent layer, and separated by defining regions. Regarding claim 9, Matthies discloses the deposition of a black, optically absorbing material "in all areas where metal electrodes will be later deposited" before placement of the row electrodes (column 10, line 63). Since the row electrodes (Figure 6B, element 328) extend between the emissive cells, the optically absorbent material overlays the

region between the cells. Regarding claim 10, Figure 8, element 802 shows the bead seal along the periphery of each module between adjacent modules. The optically absorbing masking layer (Figure 8, element 804) covers the bead seals that lie on the peripheral gaps between adjacent modules so when the tiled display is viewed from the top, no seal is seen.

2. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matthies et al. (6,370,019) in view of Lechner (6,190,172). Matthies discloses a tiled display with all the limitations discussed above but lacks optically clear adhesive between adjacent modules. However, Matthies discloses modules connected by mullions (column 6, line 21) as well as the need for the tiles to be arranged so that there are no visible seams (column 6, line 15). Lechner teaches the use of optically clear adhesive to bond connecting tabs to display screens of a multi-screen display so as not to interfere with the display (column 11, line 21). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Matthies' tiled display with optically clear adhesive instead of mullions to connect adjacent tiles while avoiding pronounced seams between tiles.

Response to Arguments

1. Applicant's arguments filed on March 4, 2003 have been fully considered but they are not persuasive. Applicant argues that the electrical connector of Matthies cannot amount to the claimed alignment element. Each display tile is provided with an electrical connector that connects to a socket provided on the backframe. In order for the display

device to be operational, the electrical connector must align properly with its matching socket. Therefore the electrical connector on the tile functions as an alignment element and its matching socket on the backframe functions as an alignment device. Details of the electrical connector are provided in column 6 beginning at line 49. The Examiner holds that the details provided about the electrical connector adequately disclose alignment elements for each display module and that there are grounds for a *prima facie* obviousness rejection.

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (703)305-

4745. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Sharlene Leurig
March 14, 2003

ASHOK PATEL
PRIMARY EXAMINER